

TEST REPORT

As a measure of the effect of dimethylglycine and sarcosine on the viability of mammalian cells under dehydrated conditions in a clinical setting, the results of a test was used in which the growth performance of a hybridoma cell line was measured, using potassium chloride to mimic dehydration in a clinical setting.

Mouse hybridoma cells of type 6H11 were grown as a suspension using DMEM containing 4.5 g/l glucose, 110 mM NaCl, 5 mM KCl, and additionally 1 mM pyruvate, 1 mM L-Glutamic acid, 50.000 IU/l penicilline, 50 mg/l streptomycin and 100 ml fetal calf serum/l.

Growth rate was measured and compared with that when osmolarity was increased from a value of 330 mOsm/kg to about 450 mOsm/kg by fortification to 60 mM KCl. It was found that the growth rate stopped completely.

Then the effect of fortification with several components was tested. The effects appeared to be dependent on the dose that was administered. The table therefore provides a semiquantative reflection using the optimal dose, for each of the compounds.

Code: +++ strong effect, ++ medium effect, + small effect and – no effect:

Component	Effect on growth rate
Myo-inositol	-
Serine	+
Alanine	++
Proline	-
Glycine	+
Sarcosine	+++
Dimethyl glycine	+++
Taurine	-
Urea	-